

Claims

1. A ceiling structure (10) comprising a number of sheets (30) that span between parallel beams (14) mounted underneath a fixed ceiling (2), wherein
5 the sheets (30) can, by elastic deformation, be taken from an initial configuration to a desired curved configuration, in which the sheets (30) are intended to form the visible ceiling face, and wherein the sheets (30) have a first expanse along the beams (14) and a transverse second expanse, wherein the sheets (30) along said first expanse have edge portions (50)
10 configured for abutting on abutment areas (15) on the beams (14), **characterised in** that the ceiling structure (10) also comprises force-transmitting means (22) that are configured for cooperating with portions (44) of the sheets (30), which portions are arranged between said edge portions (50), in order to provide, in combination with the abutment force of the sheets
15 (30) against the abutment areas (15), the flexular moment necessary for maintaining the desired curved configuration of the sheets (30).
2. A ceiling structure according to the preceding claim, **characterised in** that the transverse second expanse is larger than the distance between the
20 beams (14).
3. A ceiling structure according to any one of the preceding claims, **characterised in** that the force-transmitting means (22) are arranged between the beams (14).
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4. A ceiling structure according to any one of the preceding claims, **characterised in** that the force-transmitting means (22) are arranged essentially centrally between the beams (14) in order to cooperate with portions (44) of the sheets (30) located centrally between said edge portions
30 (50).

5. A ceiling structure according to any one of the preceding claims, **characterised in** that the force-transmitting means (22) are configured as a part of the beams (14).
- 5 6. A ceiling structure according to any one of the preceding claims, **characterised in** that the sheets (30) assume an essentially planar initial configuration.
- 10 7. A ceiling structure according to any one of the preceding claims, **characterised in** that the sheets (30) form an upwardly arching face in the curved configuration, wherein said abutment faces (15) influence the sheets (30) by a downwardly oriented force, while the force-transmitting means (22) influence the sheets (30) by an upwardly oriented force.
- 15 8. A ceiling structure according to any one of the preceding claims, **characterised in** that a further system of parallel beams (20) is provided, said beams being mounted underneath said fixed ceiling (2) and comprising said force-transmitting means (22).
- 20 9. A ceiling structure according to the preceding claim, **characterised in** that the further system of parallel beams (20) extends perpendicular to said first-mentioned parallel beams (14) and are arranged above said abutment areas (15).
- 25 10. A ceiling structure according to the preceding claim, **characterised in** that the distance between the beams (20) in the further system of parallel beams corresponds approximately to the first expanse of the sheets (30).
- 30 11. A ceiling structure according to any one of the preceding claims, **characterised in** that the portions (44) of the sheets (30) that are arranged between said edge portions (50) that cooperate with the force-transmitting means (22) are arranged at the end edges (34) of the sheets (30) that extend in said transverse second expanse.

12. A ceiling structure according to any one of the preceding claims,
characterised in that the portions (44) of the sheets (30) that are arranged
between said edge portions (50) and cooperate with the force-transmitting
5 means (22) are configured as hook-like devices.

13. A ceiling structure according to the preceding claim, **characterised in**
that the hook-like devices (44) are integral parts of the sheets (30).

10 14. A ceiling structure according to any one of the preceding claims,
characterised in that the portions (44) of the sheets (30) that are arranged
between said edge portions (50) and cooperate with the force-transmitting
means (22) are configured as through-going openings in the sheets (30).

15 15. A ceiling structure according to any one of the preceding claims,
characterised in that the sheets (30), viewed in the initial configuration,
comprises a centrally planar area (40) with planar edge portions (50), said
edge portions (50) forming an angle relative to the central area (40).

20 16. A method of mounting a ceiling structure according to any one of the
preceding claims, **characterised in** that the edge portions (50) of the sheets
(30) are first caused to abut on abutment areas (15) on the beams (14); that
the desired curvature is subsequently imparted to the sheets (30); and that
the sheets (30) are subsequently connected to said force-transmitting means
25 (22).